Oklahoma Current Farm Economics

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Cow Pooling

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THE "NEW" OKLAHOMA CURRENT FARM ECONOMICS

With this issue of *Oklahoma Current Farm Economics,* two important changes have been made on an experimental basis. These are (1) a change in content and (2) a change in frequency of publication.

The change in content will put less emphasis on presenting outlook information. *Oklahoma Current Farm Economics* has included outlook information since the first issue in April, 1927. However, in view of the increasing availability of such information from other sources on a more current basis than is possible with a bi-monthly publication, we decided to de-emphasize this function.

Only one analysis of the outlook for each major Oklahoma agricultural commodity in each calendar year is anticipated. Outlook information on a monthly basis for all commodities is now available in a publication by the Oklahoma Agricultural Extension Service. One copy of a recent issue of this publication is enclosed with your June issue of *Current Farm Economics.* If you wish to receive this monthly publication, contact the county agent in your county or write to: Houston E. Ward, Associate Extension Economist, Agricultural Extension Service, Oklahoma State University, Stillwater, Oklahoma.

There will be more emphasis on presenting timely information which is not readily available from other sources. This will include the reporting of results from the analyses of current problems, and the reporting of preliminary research results in agricultural economics and related areas.

The second change, a different frequency of publication, is a by-product of the change in content. *Oklahoma Current Farm Economics* will now be published quarterly rather than bi-monthly.

We shall appreciate receiving any comments or questions you may have concerning these changes.

Leo V. Blakely

Editor

THE WHEAT SITUATION

Nellis A. Briscoe

Supply and Disappearance

Total wheat supplies for the 1958-59 marketing year are now estimated by the U. S. Department of Agriculture at 2,352 million bushels. These supplies consist of: the July 1, 1958, carryover of 881 million; the 1958 crop estimated at 1,462 million; and imports, principally of feeding quality wheat, of about 9 million bushels.

Domestic disappearance of wheat during 1958-59 is estimated at 619 million bushels, slightly above last year. Food use (including use by territories of the United States and by military services) is estimated at 493 million bushels. Feed use may total 60 million bushels, approximately 50 percent more than the quantity used for feed last year. Seed use is estimated at 66 million bushels.

If domestic disappearance totals 619 million and if 450 million bushels are exported, as now estimated, the carryover July 1, 1959, would be about 1,283 million bushels. This would be an increase in carryover of 402 million bushels from July 1, 1958.

Production

The 1959 winter wheat crop was estimated by the USDA at 941 million bushels as of June 1. This is 15 million bushels less than the May 1 estimate and compares with the record 1958 winter-wheat harvest of 1,180 million bushels and the 1948-57 average of 815 million. Yields are estimated at 23.2 bushels per acre, second only to last year's record yield of 28.4 bushels per acre.

Production of spring wheat is forecast at 240 million bushels, 15 percent below last year's production but about equal to the 1957 crop. Yields are expected to be below last year's record of 23.5 bushels per acre.

A spring wheat crop of 240 million bushels and a winter crop of 941 million indicates a total wheat crop for this year of 1,181 million bushels. A crop of this size would be the fifth largest harvested in this country, but 19 percent less than the all-time record production of 1,462,218,000 bushels in 1958.

The estimated wheat production for Oklahoma is 79,128,000 bushels. Although a crop of this size would be 31 percent less than the record 1958 production of 115,440,000, it would be 22 percent greater than the 10-year (1948-57) average production of 64,925,000 bushels.

Support Price

Marketing quotas on wheat will be in effect for the 1959 crop. The national average support price for the 1959 crop will be not less than $1.81 per bushel. This forward minimum price reflects 75 percent of estimated transitional parity price for July 1, 1959. In the event that 75 percent of transitional parity as of the beginning of the marketing year, July 1, 1959, is more than $1.81 per bushel, the support price will be increased.

Acreage Allotments

A national acreage allotment for the 1960 wheat crop has been established at 55 million acres, the minimum permitted by law. This will be the seventh successive year in which acreage allotments have been in operation, and the sixth successive year that they have been set at the statutory minimum. If it were not for the statutory minimum of 55 million acres, the supply formula provided in the law would have meant a zero allotment for 1960. The estimated carryover on July 1, 1960, would more than fill the law's consumption, export, and carryover allowance requirements for the 1960-61 marketing year.

Marketing Quotas

National wheat marketing quotas have been proclaimed for the 1960 crop—the seventh successive year for quotas. A referendum for approval of the quotas has been set for July 23, 1959. The minimum national average support price for the 1960 crop would be established at 75 percent of parity, the minimum now permitted by law. On the basis of the May 15 parity of $2.37, this would indicate a forward minimum 1960 loan of $1.78 a bushel, compared with $1.81 on the 1959 crop and $1.82 for 1958. To become effective, marketing quotas must be approved by two-thirds of the eligible producers voting in the July 23 referendum.

If quotas are approved, as they have been in all previous referendums, producers in commercial wheat states who comply with their individual farm acreage allotments will be eligible for the full level of

price support on their entire wheat production. Individual farm marketing quotas will be the normal production or the actual production, whichever is larger, from the farm acreage allotment. In the non-commercial wheat states, acreage allotments and marketing quotas will not apply. Support rates in these states are set by law at levels representing 75 percent of the support rates calculated for the national acreage. A non-commercial wheat state is defined by law as a state with total wheat acreage allotments of 25 thousand acres or less. The non-commercial area includes 10 states.

With marketing quotas in effect, producers in commercial wheat states who harvest an acreage in excess of their farm allotment will not be eligible for price support and will be subject to a marketing quota penalty. The penalty will be assessed on wheat produced from acreage in excess of the farm's allotment and the penalty rate will be 45 percent of the wheat parity price as of May 1, 1960. These provisions will not apply to growers who have less than 15 acres of wheat for harvest or who have signed applications for exemption under the feed-wheat provision permitting 30 acres or less to be used exclusively for feed or food on the farm where grown. There are no limitations on the amount of wheat which may be grown for food, feed, or seed by State, religious, or charitable institutions.

If marketing quotas are disapproved, there will be no restrictions on wheat marketings. Acreage allotments, however, would remain in effect as a condition of eligibility for price support at 50 percent of parity.

Changes Made on Farms in the Oklahoma City Milkshed After Installing Bulk Milk Tanks

Fred A. Mangum and Kenneth B. Boggs*

Information on changes made or planned by dairy farmers after installing bulk milk tanks was obtained from a representative sample of dairy farms in the Oklahoma City milkshed. The study was limited to those dairy producers with bulk tanks selling milk on the Oklahoma City market during January, 1958, and who had been producing grade A milk commercially in the Oklahoma City milkshed for a minimum of two years. A total of 210 producers, or 58.6 percent of all bulk producers in this area, conformed to these conditions.

The 210 farms were divided into five separate groups based on the average pounds of milk produced per month during the calendar year 1957:

Group A—0 to 10,000 lbs. per month
Group B—10 to 15,000 lbs. per month
Group C—15 to 20,000 lbs. per month
Group D—20 to 30,000 lbs. per month, and
Group E—over 30,000 lbs. per month.

The sample studied consisted of 50 of the 210 farms, 10 from each size group. Twenty-one were in the eastern half of the milkshed and 29 in the western half. Information was obtained by personal interviews with the dairy operator.

Characteristics of Sample Farms

Half of the farmers interviewed reported that 90 percent or more of the total farm income was derived from dairying, including the sale of cattle and calves. The farms in the sample averaged 550 acres per farm and ranged in size from 76 to 3,030 acres. As might be expected, farms with relatively low annual milk production had the smaller acreages. Half of the farms in the two groups with the lowest production contained less than 300 acres. All but two of the 20 farms averaging greater than 20,000 pounds of milk per farm contained more than 400 acres.

The proportion of land devoted to pasture exceeded all other uses in 1957. Dairymen reported that some grazing was obtained on 441 acres per farm. This was an average of 80.2 percent of the total land in these farms.

*Graduate Student and Assistant Professor, respectively.

The average number of dairy cattle per farm was 67.5 animals and ranged from 28 to 204. Groups A and B reported approximately equal size herds of 40.5 and 42.4 animals respectively (Table 1). Farms in group C reported 68.0 dairy animals per farm, and farms in group D averaged 80.4 dairy animals. In group E, the average number reported per farm was 112.3 animals and ranged from 52 to 204 head.

The average number of dairy cows on sample farms was 37 head (Table 1). This ranged from eight to 142 cows per farm.* The average production per cow in 1957 was estimated at 6,913 pounds per year.** The average number of dairy cows per herd was directly associated with the quantity of milk sales.

All farmers contacted were raising their own herd replacements. The average number of heifers under two years old was 28 head (Table 1). This represents 75.7 percent of the number of cows of milking age on these farms. If a heifer-cow ratio of 50 percent is required to maintain herd size, this figure may indicate a planned expansion of milk production on these farms. However, the increased ratio may also reflect farmers' realizations that some of these heifers may not be suitable for herd replacements.

The ratio of heifers to dairy cows was greatest on farms in group C. The 30.7 heifers reported on these farms were 95.0 percent of the number of dairy cows reported. The 41.6 heifers per farm in group E represented 59.5 percent of the average number of cows reported on these farms, the smallest percentage reported. For the remaining groups, the replacement percentage ranged from 75.4 to 87.7 percent.

Labor used on the farms was fairly homogeneous in composition. On all farms averaging less than 30,000 pounds of milk per month, family labor was used primarily. On 76 percent of all the sample farms, family labor accounted for all labor used in the milking operation. Of the 12 farms hiring labor for milking, eight were in the group averaging greater than 30,000 pounds of milk per month. Hired labor was used

*This and all subsequent references to dairy cows refers to cows, dry and milking, two years of age and older.

**The average production per cow in each strata is a simple average based on sales of milk in 1957 and the number of dairy cows on farms. The average for the total sample is a weighted average where the average for each group is weighted by the percentage that the possible sampling units in each group is of all possible sampling units (page 00).

Table 1.—Herd Composition and Average Number of Dairy Cattle Per Farm in Sample; Oklahoma City Milkshed, 1957.*

Item	Total		Group A 0-10,000 lbs.		Group B 10-15,000 lbs.		Group C 15-20,000 lbs.		Group D 20-30,000 lbs.		Group E Over 30,000 lbs.	
	Number Reporting	Ave. No.	Number Reporting	Ave. No.	Number Reporting	Ave. No.	Number Reporting	Ave. No.	Number Reporting	Ave. No.	Number Reporting	Ave. No.
Total per farm	50	67.5	10	40.5	10	42.4	10	68.0	10	80.4	10	106.4
Cows (dry and milking)	50	37.0	10	18.7	10	22.4	10	32.3	10	41.8	10	69.9
Heifers 1-2 years	48	15.8	10	8.8	10	8.7	9	19.2	10	21.3	9	21.8
Heifers under 1 year	48	12.2	10	7.6	10	8.2	10	11.5	9	15.1	9	19.8
Bulls	46	1.7	10	1.4	7	1.1	9	2.0	10	1.7	10	2.2
Others	24	6.7	5	8.0	6	3.8	5	10.2	4	5.0	4	7.0
Raised in 1957	49	15.0	10	9.0	10	10.1	10	16.0	9	18.0	10	22.2
Deaths in 1957	33	3.6	3	1.7	8	2.0	5	3.6	7	3.6	10	5.6
Bought in 1957	23	8.1	4	3.5	6	6.3	2	5.2	6	7.3	5	15.0
Sales in 1957	47	11.5	9	7.3	10	5.2	10	11.3	10	17.6	8	17.0

*Averages in all cases are computed on the basis of number of farms reporting.

in milking on one farm in group A and on one farm in group C. In both instances the operator and his wife had full-time off-farm jobs. Two farms in group D reported hired labor used to assist the operator in milking.

Size of Bulk Tanks on Farms

The average size bulk tank used on the sample farms was 351 gallons. The range was from 145 to 1,000 gallons. The average size bulk tank used on farms in group A was 233 gallons with no tanks reported larger than 300 gallons. The average size tank in use on farms in group B was 244 gallons with 400 gallons the largest reported. The average reported for groups C and D was 355 and 399 gallons respectively. There were no farms in group E using a bulk tank less than 485 gallons in size and the average size tank reported for this group was 582 gallons. The number of tanks ranging from 200 to 300 gallons accounted for 50 percent of the tanks in the survey.

The estimated utilization of the bulk tank ranged from 33 to 80 percent, with an average utilization per pick-up of 60 percent of capacity. Group A producers reported only 55 percent average usage per pick-up. This usage factor increased directly with level of milk production. Farmers in group E reported an average of 65 percent of tank capacity per pick-up during the year.

Problems Associated with Bulk Milk Tanks

Farmers in the survey were asked to indicate their experiences with problems associated with bulk milk handling. These problems were: (1) milk rejected, (2) churning of the milk, (3) freezing of the milk, and (4) off-flavors and odors in the milk.

When milk is cooled in a bulk tank, there is the ever-present danger that milk from one cow may cause the entire tank of milk to be rejected. Respondents in this study indicated only two tanks of milk had been rejected for this reason. Both instances occurred on farms in group A.

A second problem, churning of milk in the tank, may result in loss of all of the milk in the tank or, in some cases, sale of milk at a reduced price. The churning usually occurred when the agitator was left running while the compressor was not operating. It was reported as a problem on seven of the survey farms.

In some types of bulk tanks the milk may freeze. This problem was reported on 11 of the survey farms. Freezing was most prevalent when only a small amount of milk from the first night's milking was in the tank. Freezing may also occur if the agitator is not operating when the compressor is running.

The last major problem, milk odors, cannot be attributed exclusively to the bulk milk tank, since it may occur as easily with a can handling system. Trouble with milk odors was reported on 16 of the 50 sample farms. Most respondents indicated the odors occurred in the spring when cows were grazing on wheat or oat pasture and had not been removed from the pasture a sufficient length of time prior to milking.

Generally, troubles normally associated with the production and sale of high quality milk appear to occur less frequently with bulk tanks than with can coolers. Of the 50 producers interviewed, all were satisfied with the new method and none would consider reverting to a can handling system.

Changes in Dairy Cow Numbers

The most significant change made by producers after installing bulk tanks was to increase the number of dairy cows. However, no information was available to compare this change with changes in the herd sizes of producers using the can system. Sixty percent of the farmers in the survey reported a change in the number of dairy cows on farms since the acquisition of a bulk tank. Two farmers had reduced the number of dairy cows, but 28 farmers reported an increase (Table II). The average increase was 6.2 dairy cows per farm. There was no appreciable difference between groups in the number of farmers reporting increases; how-

Table II.—Number of Farms in Sample Reporting Changes in Herd Size and Farm Size After Installation of a Bulk Tank; Oklahoma City Milkshed, 1957.

No. of Farms With:	Total	Group A 0-10,000 pounds	Group B 10-15,000 pounds	Group C 15-20,000 pounds	Group D 20-30,000 pounds	Group E Over 30,000 pounds
				(number)		
Decreased milking herd	2	1	0	0	0	1
Increased milking herd	28	4	6	4	8	6
Smaller farm size	5	2	0	0	1	2
Larger farm size	22	5	2	6	5	4

ever, the average increase in cows per farm was greatest in the two groups with the highest average monthly production of milk. The increase was 9.2 cows for eight farms in group D and 7.5 cows for six farms in group E.

Concurrent with the increased number of dairy cows, was an increase in milk production per farm. This increased output is accounted for by increased numbers of cows on farms and the addition of higher producing cows.

In order to add more cows and increase production, it is frequently necessary to add more land. The survey indicated that 22 farmers, 44 percent of those interviewed, had added farm land since installing a bulk milk tank. For these 22 farms, the average addition was 153.2 acres. Larger farm sizes were reported for all groups, but the largest proportion of farms expanding was in group C. Smaller farm sizes were reported on 10 percent of the sample farms, primarily in the smallest and largest size groups.

Changes in Production

Generally, producers increased production after installing bulk milk tanks. However, this increase was not uniform for each of the size groups. The trend and average milk sales per farm for producers in each group are shown in Table III. For group A, the trend in average milk sales per farm has been decreasing at the rate of 61 pounds per month. Farms in group B have been increasing milk production at the rate of 119 pounds of milk per month. Farms in group C have experienced the largest increase in milk production per month, 136 pounds. There was some indication of an upward trend in monthly milk production for group D farms and a downward trend for group E farms. However, the trends for these two largest sized groups were not statistically significant.

Anticipated Future Changes

About 70 percent of the sample farms expect to expand the number of cows in their herds (Table IV). The number of farmers planning expansion was about the same for all groups except E, the group with the largest production. Only four of these farmers indicated they planned to expand cow numbers. The average increase of all farmers planning expansion was about 17 cows per herd. This ranged from about 14 cows per herd for group B to a high of about 25 cows per herd for group C.

Table III.—Regression Equations for Trends in Milk Production in Pounds on Sample Farms by Size Groups; August, 1956 to July, 1958.*

For the 10 Sample Farms in Group:	Regression Equations**	Monthly Change in Milk Production Per Farm
A	$\hat{Y}$=92.002 - .60915 X (.29618)	-60.915
B	$\hat{Y}$=113.93375 + 1.18550 X (.50037)	118.550
C	$\hat{Y}$=166.65738 + 1.35541 X (.6322)	135.541
D	$\hat{Y}$=244.08038 + .45117 X (.45766)	45.117
E	$\hat{Y}$=433.42362 - .45709 X (.91321)	-45.709

SOURCE: Information obtained from the records of Central Oklahoma Milk Producers Association.

*Based on total milk sales per farm for this two year period.
**Computed by the single equation least squares method. Figures in parentheses are standard errors of the regression coefficients.

Table IV.—Specific Changes Planned by Producers in Sample; Oklahoma City Milkshed, 1957.

Specific Plans	Total	Group A 0-10,000 pounds	Group B 10-15,000 pounds	Group C 15-20,000 pounds	Group D 20-30,000 pounds	Group E Over 30,000 pounds
Expand number of cows	35	8	8	6	9	4
Average increase in cows per farm*	17.2	15.2	13.7	25.0	20.7	15
Install a pipeline milker	15	3	4	4	2	2
Buy a larger bulk tank	8	0	2	2	4	0

*The average is computed on basis of number of farms reporting.

There are indications that farms averaging less than 10,000 pounds of milk per month are decreasing output. Some farmers in this group appear to be adjusting to some alternative farm enterprise or obtaining non-farm employment, while others are increasing the size of the milking herd and moving to a higher level of production. Most farmers in the

production range of 10,000 to 30,000 pounds per month are increasing their scale of operation. This may permit these farmers to take advantage of lower fixed cost per unit and to increase net revenue from the dairy enterprise. This group would include 82.4 percent of the 210 producers defined to be eligible for the survey. Most farms averaging greater than 30,000 pounds of milk per month are expected to continue their operation with the present number of cows. Many of the farmers in this group reported they were content to increase output per farm by attempting to increase production per cow.

New equipment purchases are contemplated by many farmers within the next five years. Thirty percent of the producers expect to install a pipeline milker and 16 percent expect to buy a larger bulk tank. Larger bulk tanks appear important only to the middle size groups.

COW POOLING

Clark Edwards

Pooling is a means of combining your capital with capital of others as a means of increasing investment returns through more efficient use of resources. The idea of pooling is not new to Oklahoma agriculture. For example, machinery pools are common, with joint ownership of combines cutting harvesting costs and increasing net revenue per acre of wheat.

A new kind of pooling agreement is attracting attention across the country—the cow pool. Some cow pools involve no more than 25 cows, as when two or three neighbors get together and agree to let one man do all the milking. Other pools involve 800 to 1,000 cows, representing the interests of 50 to 60 farmers, as at the Fashion Farm Cow Pool near Meservey, Iowa.

There are no large cow pools in Oklahoma yet, but interest is being stimulated by rapid changes in the dairy industry which are resulting in increased capital requirements per farm. Milk cow numbers are diminishing at the rate of 15,000 to 20,000 head per year in Oklahoma. However, total milk production is not diminishing in the state because the average quality of cows improves each year. With fewer and better producing cows becoming concentrated on fewer and more efficient dairy farms, top-notch managerial ability and increased concentration of productive capital are required for efficient milk production. Cow pools provide one means of meeting these needs.

Resource Requirements

Data in Table I illustrate the extent to which larger herds permit improved efficiency of labor and capital while increasing the total capital requirement.

Table I.—Typical Investment and Labor Requirements for Three Herd Sizes.

	Size of Dairy Enterprise		
	Average	Large	Very Large
Number of cows in herd	25-40	80-120	800-1000
Cows per man	25-40	40-60	60
Investment per cow	$1500	$1000	$600
Total investment	$50,000	$100,000	$500,000

The average family-sized dairy operation with 25 to 40 cows employs one full-time operator and usually another part-time man. An investment of about $50,000 is reasonable on these farms. Doubling the investment can more than double the size of herd, because investment per cow is usually cut by one-third for larger farms. This represents considerable savings in building and equipment costs per cow.

While many farm families can accumulate a large equity in a 30-cow herd, it is less common to find a large equity in owner-operated herds of 100 or more cows. Here the small cow pool may be effective. For example, if the operator supplies 30 cows, and the rest are pooled by neighbors, the investment required of the operator in a 100-cow pool may be reduced by more than one-fifth from the total investment required for this size operation.

Very large herds of from 800 to 1,000 cows can require a total investment of a half million dollars. Table I indicates that this investment may prove worthwhile because it involves less investment per cow and it permits increased labor efficiency. The number of cows handled per man is about 60 compared with 20 to 40 cows per man on the average dairy farm.

Source of Investment Capital

If cow pooling means investments per herd of from two to twenty times the investment found on average dairy farms in Oklahoma, where is the money coming from? There are several practical answers to this question.

Cow pools can be financed from accumulated capital of individuals, including or excluding pooled livestock and from cash loans. A considerable quantity of capital that could be tapped for cow pooling is currently in the hands of Oklahoma dairy farmers. This capital is not in cash, but is currently invested in livestock, buildings, equipment and land. Cow herds of 50 to 500 cows can be formed simply by two to ten individual farmers joining together parts of their farm operation. They can pool the investment in cows, provide an adequate set of buildings and equipment at one location, and arrange for an adequate supply of labor.

An arrangement of this sort may require very little cash. This is a distinctive feature of pooling. In most credit arrangements, one contracts

for a specified quantity of cash at a stated rate of interest. In pooling, one contracts for productive resources such as dairy cattle, rather than for cash with which to obtain the cattle.

Other pooling arrangements may require considerable sums of cash for acquisition of land, buildings, equipment, and inventories of feed and supplies. In such cases, there are several sources that may be tapped. One may, for example, incorporate and raise the necessary funds through sale of stock. The pool might be financed through a producer cooperative. If existing cooperatives are not interested, one might be formed for this purpose. Feed dealers may provide money with which to get started, in exchange for a contract to supply all the mixed feed used in the pool. Milk handlers may help with the financing in exchange for a contract to handle all the milk.

The pooling arrangement permits the organization to operate with a small percentage equity, say 10 to 25 percent compared with the 80 to 90 percent equity typically found on average dairy farms. Another way to look at it is that, through pooling, farmers with a given net worth or equity can gain control of more resources and conduct larger operations for greater profits. For example, using as a base a typical farm with a 30-cow herd and a 90 percent equity in the accompanying $50,000 investment, pooling can be used to build up the herd to 180 cows if the operation is increased in size until the given equity becomes only 25 percent of the total assets used in the operation.

The Attraction of Cow Pools

Cow pooling offers several advantages. Among these are (1) getting the use of additional capital, (2) increasing efficiency of resource use, and (3) marketing advantages. The first two advantages result from the use of pooling as a means of concentrating dairy resources into larger, more profitable herds. The pool operator benefits from the use of other producers' dairy cattle. The cow owners benefit from the use of the pool's labor, buildings, equipment and marketing opportunities.

The potential for cutting the average cost of producing a pound of milk through more efficient combinations of resources is also present. For example, the milk produced per hour of labor can be increased by more than 50 percent in very large operations, as compared with the average

size of family operations (Table I). In addition, the cost of maintaining buildings and equipment can be cut from 15 percent to 20 percent per cow per year in the very large operations.

The marketing advantages through pooling are of two kinds: (1) Opportunities for increased net returns per hundredweight of milk after hauling and handling charges; and (2) opportunities for cutting the costs of some resources, such as mixed feed, through quantity discounts. It is possible to obtain higher product prices at the farm gate and lower costs of items purchased through cow pooling.

There are, of course, other advantages to cow pooling. However, prospects of realizing any one of the foregoing three advantages is sufficient to attract considerable attention to cow pooling.

Some Limitations of Cow Pooling

While the potential gains from cow pooling are attractive, one must not be blinded to the several disadvantages which may encountered. In the first place, some of the potential gains may not be realized. While the marketing advantages and productive efficiencies are possible, they need not necessarily occur.

The combination of a larger business operated on a smaller percentage equity, with several people having vested interests in the outcome, places very large cow pools in a more vulnerable position than the average dairy farm. For example, a sharp decline in milk prices could impose severe losses on the operation. If farmers sold their cows for slaughter during a period of low prices, the pool would be left with a heavy investment in buildings and equipment, yet have no cows to milk to defray expenses. Furthermore, the very large pool depends on regular sources of roughage and replacements. Should local sources become void, the pool might unexpectedly incur heavy expenditures to keep the venture in operation.

The mere size of the large cow pool is enough to cause important changes in the present market structure for dairy resources as well as for milk. Five or six very large pools could produce about three or four percent of the total milk produced in Oklahoma. Through their normal operations of buying resources and selling milk, these firms might affect considerably the markets in which smaller producers buy productive resources and sell farm products.

A final disadvantage frequently cited for cow pools is probably the least important—the health problem. Although poor sanitation controls will doom the pool to failure, this is the least important because proper santation controls are obtainable at a reasonable cost. Mastitis and foot rot are the two diseases most frequently encountered in cow pools. When disease strikes the pool, the farmer loses his flow of income, he may lose his cattle or sell them for a loss, and the pool operates in the red. However, for a cost of five or ten dollars per cow per year, the services of a competent veterinarian can be obtained, proper precautions can be taken, and cures can be effected in time to prevent large losses.

Summary

When dairy farmers become aware of the rapid changes currently taking place in the dairy industry in Oklahoma, they must determine what action to take for their own safety and profit. Some farmers may decide to take no action. That is, they will continue to milk 20 or 30 cows. This is a perfectly good alternative. In fact, farms of this size will probably continue to be the mainstay of Oklahoma milk production for years to come.

Other farmers may prefer to stop milking cows and adjust to the changing times by engaging in other enterprises. One enterprise closely associated with milking which is destined to become more important in future milk production is the raising of replacements. With larger milking operations in the offing, specialization to the extent of raising and selling replacements is likely to become both popular and profitable.

The dairy farmer who does not want to hold his operation to its present size, and does want to continue producing milk, must find ways to grow with the changing times. We can expect the number of herds of more than 100 cows to increase. We can expect to see a few herds appear in Oklahoma with 500 to 1,000 cows. The larger herds offer as attractions more efficient use of milk producing resources as well as certain marketing advantages in both the product and the factor markets. For some farmers, these advantages will appear to outweigh the disadvantages of increased risk and creation of new problems with sanitation, labor, management and capital accumulation. In the move toward larger farms, where herds from two to twenty times the size will be created, the increased capital requirements will be met at least in part through cow pooling.

Oklahoma Agricultural Commodity Price Changes

Prices received by Oklahoma farmers for agricultural commodities have remained fairly steady. Prices of all commodities in May were 273 percent of the 1910-14 average and have ranged from 261 percent to 278 percent over the past 12 months. On the other hand, prices paid by U. S. farmers have gradually increased over the past 12 months. The index of prices paid in May was 299 percent of the 1910-14 average, 4 points higher than a year ago. The higher index of prices paid has resulted in a small decrease in the index of purchasing power of Oklahoma commodities.

Crop prices received by Oklahoma farmers were down in May, compared with levels a year earlier. Most of the decrease occurred in the oil-bearing crops and was the result of the use of nominal 1958 crop prices as compared with nominal 1957 crop prices for May index computations. All hay prices were higher, but trends were mixed. Alfalfa hay prices increased more than enough to offset lower wild hay prices. Cotton prices were 14 percent above a year ago.

Prices of Oklahoma livestock and livestock products in May were 330 percent of the 1910-14 average—about the same as a year earlier. Meat animal prices were up about 5 percent. Higher prices of cattle and calves more than offset lower prices of hogs and sheep. Lower wholesale milk prices decreased the index of prices received from the sale of dairy products. The sharpest price reduction occurred in the prices of poultry and poultry products. Farm chickens, commercial broilers, and eggs shared the break in prices.

Prices received by Oklahoma farmers are likely to decrease during the next three months. Seasonally lower prices are expected for wheat and feed grains as the new crops come to market. Cattle prices are also expected to decline seasonally when marketings off grass increase.

Table 1.—Monthly and Season Average[1] Prices Received by Farmers for Oklahoma Farm Products.
(Dollars)

	Wheat	Corn	Oats	Barley	Rye	Grain Sorghum	All hay	Alfalfa hay	Wild hay	Cotton-lint	Cotton-seed	Soy-beans	Pea-nuts
1957	1.93	1.24	.65	.80	.97	1.64*	19.30	23.62*	16.22*	.227	49.70	2.01	.102
1958**	1.75	1.15	.56	.77	.89	1.70	15.00	18.69	12.97	.310	41.40	1.80	.105
1958 May	2.06	1.24	.61	.72	.97	1.82	15.90	18.50	14.00	.238	-- --	2.05	---
June	1.64	1.23	.48	.68	.86	1.80	14.50	17.00	12.60	.260	-- --	2.00	---
July	1.62	1.25	.52	.73	.88	1.85	14.80	17.70	12.50	.260	-- --	2.00	---
Aug.	1.66	1.24	.56	.76	.88	1.80	14.60	17.60	12.00	.320	-- --	2.00	---
Sept.	1.75	1.08	.60	.78	.96	1.65	14.40	17.30	11.50	.322	42.00	1.86	.105
Oct.	1.79	1.07	.60	.80	.92	1.56	15.00	17.70	12.80	.311	41.00	1.77	.106
Nov.	1.81	1.06	.61	.85	.96	1.62	15.20	18.40	12.80	.305	42.00	1.78	.103
Dec.	1.78	1.11	.62	.86	.97	1.68	16.80	19.90	14.10	.268	42.00	1.88	.105
1959 Jan.	1.80	1.12	.64	.89	.98	1.72	17.10	20.40	14.00	.252	41.00	1.95	.103
Feb.	1.84	1.12	.64	.89	.98	1.78	16.40	19.60	13.30	.264	42.00	1.95	.105
Mar.	1.84	1.13	.63	.88	.97	1.80	16.30	19.80	12.80	.256	42.00	1.95	.105
Apr.	1.87	1.16	.65	.88	.95	1.86	16.80	20.40	13.20	.296	-- --	2.00	.102
May	1.82	1.18	.64	.83	.90	1.90	16.40	20.20	12.70	.270	-- --	2.00	---

	Cattle	Calves	Sheep	Lambs	Hogs	Wholesale milk	Butter-fat	All chickens	Commercial broilers	Eggs	Turkeys	Wool	Alfalfa seed	Sweet Potatoes
1957	15.90	17.90	6.60	19.60*	17.90	4.59*	.53	.163	.183	.293	.221	.45	21.20*	2.85
1958**	21.50	25.50	7.80	21.00	19.60	4.65	.52	.166	.179	.328	.222	.28	19.00	2.42
1958 May	22.00*	25.50	8.40*	21.00	20.70	4.30*	.51	.178*	.195	.315	.220	.27	22.00	---
June	21.30	24.80	7.50*	21.50	21.10	4.30*	.51	.185*	.205*	.293	.210	.29*	-- --	---
July	21.90*	25.70*	7.30*	21.30*	22.00*	4.45*	.51	.171	.185*	.301	.220	.31*	-- --	---
Aug.	21.70	25.60*	7.50	21.00	21.30	4.50*	.52*	.158*	170	.300	.210	.29	19.50	2.50
Sept.	22.10	26.60*	7.50*	20.30*	19.90*	4.70*	.53*	.150*	.160*	.345	.220	.28*	18.70	2.50
Oct.	21.80	26.10*	7.40	20.30*	18.30	4.75*	.53*	.144*	.155*	.348	.220	.30*	19.10	2.20
Nov.	21.80*	26.80*	7.40	20.00	18.30*	4.80*	.53*	.146	.155*	.357	.220	.29	19.40	2.35
Dec.	22.70	27.50	7.20*	18.60*	17.80	4.90*	.53*	.139	.150*	.373	.230	.29*	19.00	2.45
1959 Jan.	22.70	27.50	7.10	17.40	16.60	4.80*	.51	.154	.165	.363	.230	.28	20.00	2.55
Feb.	23.10	28.50	7.20	17.40	15.80	4.70	.52	.141	.160	.320	.22	.28	20.00	2.55
Mar.	23.20	28.30	7.50	18.30	15.30	4.65	.52	.133	.160	.288	.22	.27	19.50	2.55
Apr.	24.00	29.30	7.50	19.60	15.60	4.35	.52	.133	.150	.227	.22	.30	20.00	---
May	24.10	29.30	7.20	22.00	15.30	4.15**	.52	.136	.150	.205	.21	.33	19.50	---

SOURCE: *Prices Received by Farmers*, Agricultural Marketing Service, U.S.D.A., Oklahoma City, Oklahoma, Monthly Releases or *Agricultural Prices*, A.M.S., U.S.D.A., Washington, D. C.

[1] Annual prices for crops are season average prices for the crop year weighted by marketings. Annual prices for livestock and products are season average prices for the calendar year weighted by marketings.

* Revised ** Preliminary *** 9 months average

Table 2.—Index Numbers of Prices Received by Farmers for Oklahoma Farm Products.[1]

(Percent of 1910-14 Average)

		Wheat	Corn	Oats	Barley	Rye	Grain sorghums	All Hay	Cotton-lint	Cotton-seed	Sweet Potatoes
1957		227	205	166	150	123	155	261	244	286	235***
1958		215	180	135	128	109	143	183	228*	251	229
1958	May	239	191	136	120	113	151	180	210	* *	* *
	June	190	189	107	114	100	150	164	230	* *	* *
	July	188	192	116	122	102	154	168	230	* *	* *
	Aug.	193	191	125	127	102	150	166	283*	* *	203
	Sept.	203	166	134	130	112	137	163	284	215	203
	Oct.	208	165	134	134	107	130	170	275	210	179
	Nov.	210	163	136	142	112	135	172	269	215	191
	Dec.	206	171	139	144	113	140	190	237	215	199
1959	Jan.	209	172	143	149	114	143	194	223	210	207
	Feb.	213	172	143	149	114	148	186	233*	215	207
	Mar.	213	174	141	147	113	150	185	226	215	215
	Apr.	217	166	145	147	110	155	190	261	215	215
	May	211	182	143	139	105	158	186	239	215	---

		Cattle	Calves	Sheep	Lambs	Hogs	Wholesale milk	Butterfat	All chickens	Eggs	Wool
1957		328	297	147*	336	256	239*	225*	173	171	261
1958		445*	423	169*	358	281*	242*	223*	176*	185	182
1958	May	455	427	182*	361	294	223*	218	190*	177	157
	June	441	415	162*	370	300	223*	218	197*	165	169*
	July	453	430*	158*	367*	312*	231*	218	182*	169	181*
	Aug.	449	429*	162	361	303	234*	222*	168*	169	169
	Sept.	458	446*	162*	349*	283*	244*	226*	160*	194	163*
	Oct.	451	437*	160	349*	260	247*	226*	153*	196	175*
	Nov.	451	449*	160	344*	260*	249*	226*	155	201	169
	Dec.	470	461	156	320*	253	254*	226*	148*	210	169*
1959	Jan.	470	461	154	299	236	249*	218	164	204	163
	Feb.	478	477	156	299	224	244	222	150	180	163
	Mar.	480	474	162	315	217	241	222	151	162	157
	Apr.	497	491	162	337	222	226	222	142	128	175
	May	499	491	156	379	217	215	222	145	115	192

SOURCE: Annual data are averages of months for calendar years and are compiled by Dept. of Ag. Econ., Oklahoma State University, from data supplied by Agricultural Marketing Service, U.S.D.A., Oklahoma City, Oklahoma, and Washington, D. C. For previous years, see Oklahoma Agri. Exp. Sta. Publication P-297, Prices Received by Oklahoma Farmers, 1910-1957.

[1] For the index of purchasing power of a unit of an individual commodity in terms of commodities used in farm production and family living, interest, taxes and wage rates, divide the index of price received by Oklahoma farmers (in this table) by the index prices paid by United States farmers in Table 4 for the same month and multiply by 100.

* Revised ** Data not available *** 9 months average

Table 3.—Price Indexes of Groups of Oklahoma Farm Products.
(Percent of 1910-14 Average)

		All farm products	All crops	Feed grains	Feed grains and hay	Cotton and cottonseed	Oil bearing crops	All livestock & L.S. Prod.	Meat animals	Dairy products	Poultry and poultry prod.
1957		251	237	182	215	247	306	267*	305	255*	175
1958		271*	220*	159	172	230*	283	327*	401*	256*	187*
1958	May	279*	233	167	177	216	292	329*	411*	243*	183
	June	261	205	159	166	233	292	322*	402	242*	175*
	July	265	204	164	170	233	292	330*	414*	248*	176
	Aug.	270*	217*	164	170	280*	292	327	409*	251*	172
	Sept.	276	222	152	160	275	273	335*	413*	259*	190*
	Oct.	274	223	148	161	266	272	329	403	260*	190*
	Nov.	275*	224	150	163	262	269	331*	405*	260*	194
	Dec.	275*	216	156	172	233	273	340*	417*	264*	199*
1959	Jan.	273	215	159	176	220	267	336*	413	259*	199
	Feb.	275	220	160	174	230	273	335	418	257	177
	Mar.	273	219	161	174	224	273	332	418	255	164
	Apr.	278	228	166	179	255	268	333	432	246	136
	May	273	220	167	179	235	268	330	432	239	126

Purchasing Power Indexes of Groups of Oklahoma Farm Products.[1]
(Percent of 1910-14 Average)

		All farm products	All crops	Food grains	Feed grains	Feed grains and hay	Cotton and cottonseed	Oil bearing crops	All livestock & L.S. prod.	Meat animals	Dairy products	Pltry. and pltry. prod.
1957		88	83	79	64*	75*	86	107*	93	106	89*	61*
1958		92	75	73	54	59	78*	96	111	137	87*	64*
1958	May	95*	79	81	57	60	73	99	112*	139	82*	62
	June	89	70	65	54	56	79	99	110*	137	82*	60*
	July	90	70	64	56	58	80	100	113	141*	85*	60
	Aug.	92*	74*	66	56	58	96*	100	112	140	86*	59
	Sept.	94	76	69	52	54	94	93	114	140	88*	65
	Oct.	93	76	71	50	55	90	93	112	137	88*	65
	Nov.	94*	76	71	51	55	89	91	113*	138*	88*	66
	Dec.	93	73	70	53	58	79	93	115*	141	89*	67*
1959	Jan.	92	72	70	53	59	74	90	113*	139	87*	67
	Feb.	93	74	72	54	59	77	92	113	141	87	60
	Mar.	92	73	71	54	58	75	92	111	140	86	55
	Apr.	93	76	73	56	60	85	90	111	144	82	45
	May	91	74	71	56	60	79	90	110	144	80	42

SOURCE: Compiled by Dept. of Ag. Econ., Oklahoma State University, from data supplied by Agricultural Marketing Service, U.S.D.A., Oklahoma City, Oklahoma, and Washington, D. C. For previous years, see Oklahoma Agri. Exp. Sta. Publication P-297, Prices Received by Oklahoma Farmers, 1910-1957.

[1] The ratio of prices received by farmers to prices paid by farmers for commodities used in farm living and production, interest, taxes and wage rates. For individual commodities, see footnote 1 of Table 2.

* Revised

Table 4.—Index Numbers in the United States, Index of Demand Deposits in Oklahoma, and Oklahoma Price Ratios.

		United States index numbers of:					Oklahoma price ratios[4]			
		Prices received by farmers (1910-14=100)	Prices paid by farmers (1910-14=100)	Wholesale prices (1910-14=100)	Industrial manufacturing payrolls[1] (1947-49=100)	Index of demand deposits in Oklahoma[2 3] (1923-25=100)	Hog corn	Egg feed	Turkey feed	Milk feed
1954		246	277	247	137.7	289.3	15.15	8.6	7.4	1.479
1955		232	276	248	152.8*	291.3	11.43	9.5	7.4	1.622*
1956		230	278	256	161.3	297.4	10.35	9.7	7.2	1.695*
1957		235	286	264	162.7	290.9	13.55	9.2	6.8	1.757*
1958		250	293	268	148.8	313.0	16.87	10.2	6.9	1.968*
1958	May	256	295	267	140.9	295.2	16.69	9.4	6.6	1.737*
	June	249	294	267	144.9	302.0	17.15	9.3	6.7	1.891*
	July	250	293	267	144.8	316.4	17.36	9.4	6.9	1.924*
	Aug.	248	293	267	150.0	319.6	17.18	9.3	6.5	1.924*
	Sept.	254	294	267	155.7	321.6	18.24	10.8	6.9	2.056*
	Oct.	249	294	267	152.5	329.1	17.10	11.0	7.0	2.097*
	Nov.	247	294	267	158.4*	336.0	16.98	11.4	7.0	2.078*
	Dec.	244	295	267	160.4*	339.2	16.04	11.6	7.1	1.979
1959	Jan.	244	298	270	158.2	341.6	14.82	11.1	7.1	1.879
	Feb.	243	297	267	160.4	335.7	14.11	9.8	6.7	1.854
	Mar.	244	298	267	165.1	330.0	13.54	8.9	6.8	1.856
	Apr.	244	299	270	166.5	339.2	13.45	6.9	6.6	1.696
	May	245	299	270	---	---	12.97	6.2	6.4	1.639

SOURCE: Indexes of U. S. prices received and prices paid by farmers and indexes of U. S. wholesale prices, from *Agricultural Prices*, A.M.S., U.S.D.A., Washington, D. C. Indexes of demand deposits in Oklahoma, calculated by Dept. Agri. Econ., Okla. Agri. Exp. Sta. from data furnished by Federal Reserve Board, Washington, D. C. Indexes of industrial manufacturing payrolls, from U. S. Department of Labor, Bureau of Labor Statistics, Washington, D. C.

[1] Unadjusted for seasonal variation.

[2] Demand deposits of Oklahoma member banks of the Federal Reserve System located in places under 15,000 population.

[3] Index numbers based on net demand deposits prior to 1936 and upon gross demand deposits since that date. For a discussion of this index see CURRENT FARM ECONOMICS, Oklahoma Agricultural Experiment Station Series 49, Vol. 13, Nos. 1 and 2. Feb.-Apr., 1940. p. 41.

[4] The number of bushels of corn or pounds of feed which one unit of the commodity (100 pounds of hogs, one dozen eggs, one pound of turkeys or milk) will purchase. Prices used are the official A.M.S. estimates of prices received by Oklahoma farmers except for commercial feeds or ingredients which are official A.M.S. estimates of prices paid by Oklahoma farmers. These ratios are computed on the basis of fixed rations and are not directly comparable with ratios computed from other rations. The composition of each ration used is available upon request.

* Revised.

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